ENGINEERING NEWS-RECORD

A McGRAW-HILL PUBLICATION

Dynamiting replaces sledge-and-crowbar techniques for salvaging Army barracks

FOR LONG, TOUGH JOBS

Electric SHOVELS

Faster Cycles . . . Less Downtime . . .
Mean More Tonnage

EVERY contractor has his own way of tackling a big job . . . this ingenuity and resourcefulness keeps him in business. But they all agree on one point: electrically powered shovels and draglines can out-dig other excavators on long, tough jobs. Power shovels produce more because they are fast and flexible, accelerate and decelerate rapidly, move at high speed with light loads. The operator's productivity is high too, because he has instantaneous finger-tip control of all shovel motions . . . no big levers to manage.

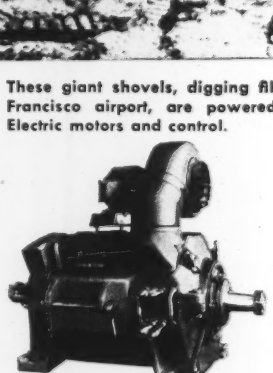
Maintenance on electric equipment for power shovels is negligible; a six-months check-up and occasional brush replacement is all the attention it needs. The motors and control are built to take rough treatment and operate satisfactorily in dusty atmosphere.

The power shovel is just one of many electrified construction tools which are helping contractors produce more for less . . . faster. Whether you buy or build contractors' equipment, ask your G-E representative to show you the inherent advantages of electric drive. *Apparatus Dept., General Electric Co., Schenectady 5, N. Y.*

GENERAL ELECTRIC

655-63

These giant shovels, digging fill for the San Francisco airport, are powered by General Electric motors and control.



G-E Type MDP-600 shovel motors are favorites with excavator builders because they are mechanically strong, require minimum maintenance.

ELECTRIFIED CONSTRUCTION
BETTER PRODUCT ★ LOWER COST

News of the Week

ENGINEERING NEWS-RECORD • NOVEMBER 6, 1947 • VOLUME 139 • NUMBER 19

Registration of engineers reaches total of 114,698

National Council of State Boards of Engineering Examiners approve higher requirements for qualification certificate—Shepard elected president.

Registration of 114,698 engineers in the 48 states, Alaska, Hawaii and Puerto Rico was reported at the annual meeting of the National Council of State Boards of Engineering Examiners in New York last week. The council, official body representing the 51 legally constituted registration boards of the United States, marked this occasion as the fortieth anniversary of the first engineers registration act—adopted by Wyoming in 1907.

Tightened qualifications for registration were approved through the amendment of by-laws pertaining to procedure and requirements. No longer will a national certificate of qualification be issued simply on the basis of graduation from an approved engineering college coupled with four years of satisfactory experience.

Applicants must now have a record of ten or more years in the practice of engineering and must pass a written examination approved by the council. Graduation from an approved school will be considered equivalent to four years of experience.

As an alternative, engineers of long-established practice may request consideration for certification on the basis of at least 15 years experience; here again graduation from an accredited school is equivalent to four years of experience.

The registration bureau of the council, which serves as the fact-finding agency and clearing-house for state boards, is offering a new service in providing applicants with a "verified professional record". The latter, based on investigations conducted by the bureau, will serve as an authentic record of an engineer's education, training and experience that can be used for presentation to employers, clients, civil service authorities, and for similar purposes.

Another token of progress in the licensing activities by state boards was the announcement that 8,268 land surveyors are now registered. In this connection the council approved a committee report setting forth educational and other requirements for registrants.

Land surveying defined

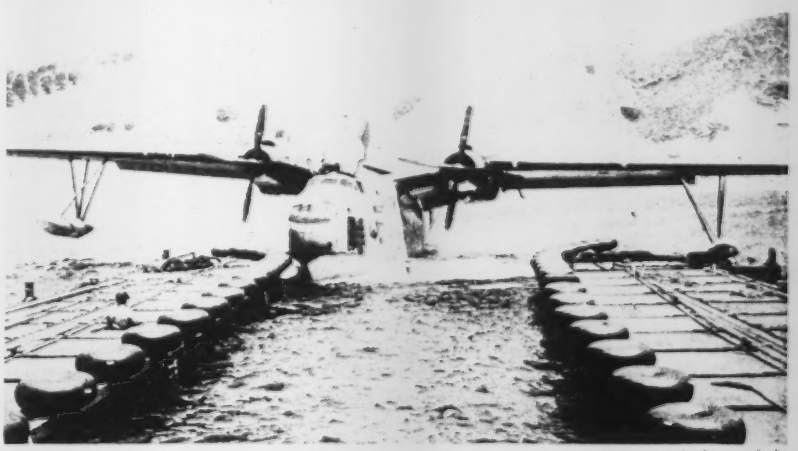
One of the important features of this committee report, presented by Robert M. Angas, chairman and consulting civil engineer of Jacksonville, Fla., was a definition of land surveying. The definition, approved subject to conformance with existing state laws, stated:

"The profession of land surveying comprises the determination of the location of land boundaries and land boundary line corners; the preparation of maps showing the shapes and areas of tracts of land for which the boundaries have been determined; the subdivision of large tracts of land into smaller tracts, including the layout of road and street right of ways to give access to the smaller tracts; and the preparation of official plats or maps of said land subdivisions, in compliance with the laws of the states in which the work is done.

"The profession of land surveying also includes the preparation and interpretation of land descriptions for incorporation in deeds, leases and other legal documents, and the application and interpretation of U. S. General Land Office and court decisions, as such decisions relate to original surveys and resurveys.

"Land surveying does not include engineering surveys, such as those required for the planning and construction of railroads, highways, airports, utility lines and bridges, although the determination of the boundaries of the lands to be used for such engineering

(*Continued on page 3*)



U. S. Navy photo

***Self-propelled Seaplane Dock**—To ease berthing of seaplanes in choppy water, the Department of The Navy has developed a self-propelled floating dock, capable of moving out from shore and swinging itself into the wind. Built of 134 pontoons assembled to permit lowering or raising in the water in the manner of a floating drydock, the movable dock operates on a 600-ft. submerged cable. Rows of partially-inflated tires serve as fenders, and six powerful water jets mounted on the sides aid in maneuvering the planes.*

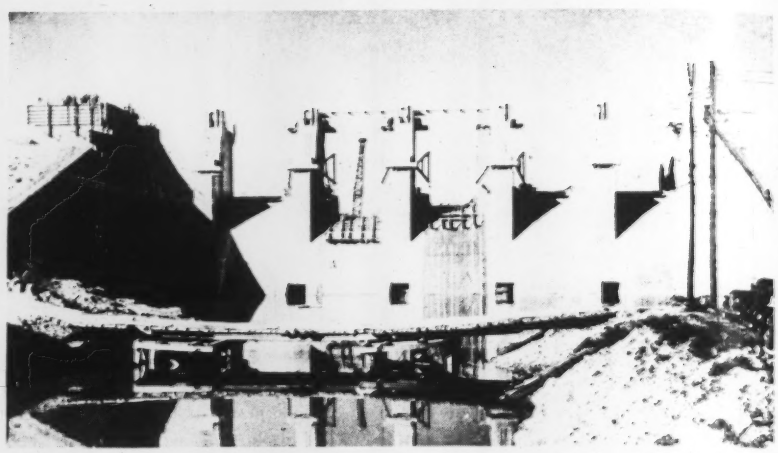
NEWS IN BRIEF

In telegraphic form, here are late news developments on the engineering and construction front during the week.

Construction—A program calling for the expenditure of $130,000,000 to install 600,000 kw. of new generating capacity, transmission and distribution facilities is projected by the Southern Company which recently took over operating companies of Commonwealth & Southern Corp., over the next three years. Financing will be in the states in which Georgia Power, Alabama Power, Gulf Power and Mississippi Power companies operate. . . . Restfoam division of Hewitt-Robbins, Inc. *Buffalo, N. Y.*, has a $600,000 plant expansion program. . . . Victor Animatograph Corp. has begun a $1,500,000 factory and office building at *Davenport, Iowa*. . . . A $1,000,000 construction project has been started by Hollingsworth and Whitney Co. to improve the water supply system for the Chickasaw paper mills, *Mobile, Ala.* . . . Dartmouth College, *Hanover N. H.*, has started a $4,000,000 drive to finance construction of the Ernest M. Hopkins center, and for expansion of its physics laboratories . . . Progress is being made in building the $500,000 Texas Co. marine terminal on the Mississippi waterfront of *St. Louis, Mo.*

Highways—A budget of $52,985,392 in the current fiscal year has been adopted by the *South Carolina* State Highway Commission . . . The *Virginia* State Highway Department has spent nearly all of its allotment for the first year of the federal aid program for secondary roads by awarding 79 contracts for farm-to-market construction totaling about $4,000,000 . . . Road projects in *Maryland* under contract this year total $14,213,000.

Housing—*Phoenix, Ariz.*, has rezoned two pieces of property for large apartment house projects. One tract 4½ acres, will be used for an apartment house to cost more than $1,000,000. The 2-story masonry building will contain 96 apartments. The other building will be erected by Del E. Webb and Associates and calls for 300 apartments at a cost of more than $3,000,000. . . . Construction of 468 rental apartments in Preston Hollow, *Dallas, Tex.*, at an estimated cost of $4,500,000 will begin next month, according to Ballard Burgher, one of the developers . . . A $2,750,000 housing development for 310 families is now under way at East Point, *Atlanta, Ga.* It is called River Park subdivision.



***Olentangy Dam**—Olentangy Dam at Delaware, Ohio, is now 95 percent complete and nearly ready to begin its job of protecting towns of the Scioto River valley from flood damage. The structure will back up a 6-mile lake.*

Sewers and Water Supply—The cost of a *Niles, Ohio*, municipal sewage treatment plant and interceptor sewers is estimated at $2,271,610 by Jones & Henry, Toledo, consulting engineers. These engineers are conducting a survey of several other communities in the *Youngstown* district in a program to clean up the Mahoning River. . . . A $5,000,000 sewage disposal system is being planned for *Wilmington, Del.*, by Whitman, Requardt and Associates of Baltimore, Md. . . . At *Jacksonville, Fla.*, work will start this month on a new $1,500,000 water filter plant, and the city will hold a referendum on issuing $9,000,000 in municipal bonds, largely for storm and sanitary sewers . . . The *Vincennes, Ind.*, city council has instructed the city Board of Safety to authorize Henry B. Steeg, Indianapolis engineer, to proceed with preparation of plans and specifications for a city sewage treatment plant. . . . The Blackstone Valley Authority of *Rhode Island* will soon announce the appointment of engineers to survey sites for a $5,000,000 sewage plant to serve *Central Falls, East Providence, Pawtucket, Lincoln* and *Cumberland*. . . . Under orders of the *Pennsylvania* State Sanitary Water Board, all state-owned institutions will be required to undertake construction of sewage treatment plants by July 1, 1948, Dr. Norris W. Vaux, secretary of health and board chairman, has announced. The order applies to those institutions which do not have treatment works or which are not treating their sewage.

THE COVER PICTURE

Dynamite is being used in demolishing former Army barracks at Ft. Lewis, Wash. —but the explosive doesn't destroy the salvagable lumber and other materials.

Using the dynamite in place of the traditional crowbar-and-sledge method is the Henry Bacon, Inc., Seattle, Wash., contractor. The end studdings are knocked out of the 100 x 20 ft. structures, and windows and doors removed. Then five charges of dynamite (four sticks each) are suspended under the ridge of the roof and set off.

The explosion loosens the tongue-and-groove roof boards, and every board and nail in the structure, permitting salvage of the lumber and much of the insulation and other materials.

Using this method, 368 buildings are being wrecked in 30 days with 44 men—an average cost of $14 per building as compared to an estimated $64 per building by conventional methods.

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Registration of engineers 114,698

(*Continued from first page*)

construction and the preparation of the legal descriptions of same, is land surveying and not engineering surveying.

The surveying necessary for the preparation of a topographic map is engineering surveying and not land surveying."

How registration got started

An interesting sidelight on how engineer registration got its start 40 years ago in Wyoming is revealed in a statement to the council supplied by Clarence T. Johnston. He said:

"I was State Engineer of Wyoming from 1903 to 1911. That officer heads a department which supervises the uses of water within the state. While the administration settles and defines existing uses of water, it also supervises prospective uses of water. In connection with the latter, plans have to be made and maps prepared. I found that all kinds of people were terming themselves as engineers and surveyors and submitting plans and maps that were prepared in comfortable offices. But little field work was taking place in several parts of the state. To correct this I prepared a bill providing for the licensing of engineers and surveyors in January 1907. This bill was passed by the legislature and signed by the Governor."

Hailing the progress that has been made in achieving professional consciousness and unity among engineers, David B. Steinman, chairman of the New York State Board of Examiners of Professional Engineers and Land Surveyors, recalled that two decades ago registration was required in only 20 states and the number certified was about 20,000.

"Before a profession can get recognition," he said, "it must be recognizable. The work of the registration boards is a service to the public and to the profession. Their efforts have made possible the determination of who is an engineer and who is not."

Dr. Steinman pointed out that in New York State a total of 40,000 applications had been received of which 20,000 had been acceptable for registration. "This means that 20,000 thought they were engineers and some of these were practicing as engineers. But they were not entitled to be engineers."

New officers

George M. Shepard, chief engineer of the St. Paul Minn. department of public works, was elected president to succeed John C. Remington, Jr., consulting engineer of Camden, N. J.

The new vice-president is Alexander Blair, consulting engineer of Lake Placid, Fla. Elected as directors were: Russell G. Warner, United Illuminating Co., New Haven, Conn; E. C. Baker, Oklahoma A. and M. College, Stillwater, Okla.; and Walter W. Graf, city engineer, Lancaster, Ohio.

T. Keith Legare, executive secretary of the NCSBEE, stated that there were 94 official delegates representing 45 states at the meeting. The 1948 meeting will be held at Salt Lake City.

Radio flood warnings planned for Pittsburgh

A new 50-station flood-warning radio network is now under consideration at Pittsburgh. Pa., according to Henry Rockwood, head of the local weather bureau.

The new network would supplement existing telephone and telegraph facilities, assuring communication when telephone and telegraph lines may be washed out; and permit the reporting of conditions from watersheds where floodwaters originate.

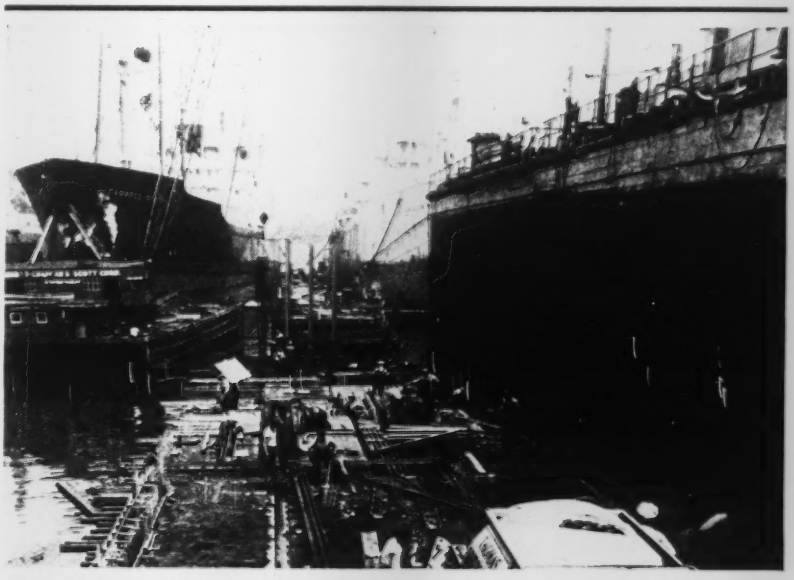
Salt Lake aqueduct progresses rapidly

After eight years of intermittent construction activity, work on the Salt Lake aqueduct is again moving forward with the prospect that it will be completed to a point where it will be usuable by the middle of 1949.

Currently work is being done on a contract involving $7\frac{1}{2}$ mi. of low-head concrete pipeline from a point just north of Little Cottonwood Creek to the Samuel R. Park reservoir and a wasteway and blow-off works at Little Cottonwood Creek. The contractor is United Concrete Pipe Corp. of Baldwin Park, Calif.

When this job is finished the aqueduct will be completed from a point in Provo River canyon $5\frac{1}{2}$ mi. below Deer Creek reservoir to the Salt Lake City distribution reservoir, except for a one-mile high-head steel pipe section across Big Cottonwood Creek.

L. R. Dunkley, U. S. Reclamation Bureau engineer, reports that bids on the high-head section will be sought soon. The present schedule calls for completion of the $7\frac{1}{2}$-mile contract during 1948 and the high-head section by the middle of 1949. This timetable will require Salt Lake City to rely on its present water supply sources through one more summer unless the precipitation cycle turns to a low point and forces emergency action.



***New Pier at Hoboken**—Todd Shipyards Corp. has completed a new 685-ft. fireproof concrete and steel pier, mounting a 25-ton gantry crane, in the Hudson River at Hoboken, N. J. The new dock has 12 service stations for electrical power, and 14 mechanical stations. The halfway view above shows inshore end completely torn up and concrete being made ready for the new deck, while two ships are being serviced on the outshore end.*

DEVELOPMENTS BEYOND U. S. BORDERS

Digested from reports by Engineering News-Record correspondents and the McGraw-Hill World News Bureau

Three world-wide engineering groups plan programs—Albert Canal cleared for traffic—South Africa plans $40 million irrigation program—Other foreign engineering news

Fostering plans for exchange of engineering information on a world-wide scale, three international engineering organizations began work on new programs last week.

Best organized of the three is the World Engineering Conference, founded a year ago at Paris, France (*ENR* Oct. 3, 1946, vol. p. 420). Meeting at headquarters in Zurich, Switzerland, recently, directors of the conference outlined a 1948 program that will include the exchange of engineers and technicians among the 30 member-countries; preparation of an international yearbook of engineering associations; coordination of scientific documents and publication of a general bulletin detailing conference activities.

Also on the new program is creation of a special committee to study social problems as they relate to technical developments.

Conference directors also discussed plans for an international technical congress, to be held at Cairo, Egypt, in March, 1949, which will discuss matters of a general technical nature; social and professional problems of the engineer and technical progress of Egypt and the Middle East.

At Paris, meanwhile, a new international organization of testing and research laboratories in the construction field was in process of formation, after a week-long series of meetings a month ago which brought together unofficial representatives of 15 countries.

Purpose of the new organization—temporarily named "Reunion of Materials and Construction Testing Laboratories"—is primarily to exchange information on research projects under way or planned throughout the world.

And, also at Paris, plans were afoot for the first postwar congress of the International Association of Bridges and Frames, to be held in Liege, Belgium, during the early part of September, 1948.

The Association's last convention was scheduled to be held in Warsaw in 1940, but never took place.

A permanent committee at Paris last week laid down five main themes for the 1948 meeting. These are: Means of assembling and details of construction of steel; new construction methods in concrete; long-span metallic bridges; slabs, walls and vaults in reinforced concrete, and analysis of the motion of vibration and dynamic loads of structures.

Transport . . . .

Turkey—The Turkish government has accepted delivery on the first of 88 locomotives of 205 tons ordered from the Vulcan Iron Works of Wilkes-Barre, Pa., to start its program of modernization of government-owned railways. The locomotives were the first ever purchased in the United States by Turkey.

Belgium—The Albert Canal, heavily damaged during the war, is again open for traffic, Belgian government officials report.

Completed before the outbreak of the war, the canal constitutes an important link between the industrial area around Liege and the port of Antwerp, and is capable of handling craft of up to 2,000 tons carrying capacity along its entire 80-mile length. *ENR* May 23, 1941, vol. p. 729. All of the 66 bridges that crossed the canal were wrecked by demolition squads during the war, as were the six twin-chamber locks. Six of the bridges have now been permanently repaired, and others replaced with temporary structures, and the locks repaired for use.

Fuel . . . .

Argentina—The main contract for steel piping for the 1,000-mi. Comodoro Rivadavia-Buenos Aires natural gas pipeline (*ENR* Sept. 11, vol. p. 355) has been placed with an Italian firm—Salmine, S. A.—it is reported at Buenos Aires.

The first shipments of pipe are said to be arriving, and, according to government sources, pipe is being put down at the rate of six kilometers a day.

The pipeline is intended to supply Buenos Aires and other cities with cheap natural gas, to cut necessity for fuel imports.

Netherlands — The California-Texas Corp. shortly will start construction of its first refinery in Europe since its entry into the European oil market a year ago.

The new plant will be located at the

Blockade—Twisted steel members of bridges and piles of rubble—from wartime damage—still block the narrow gorge formed by Greece's famed Corinth Canal, now being cleared by American engineers. The three and one-half mile-waterway, which eliminated a 200-mile trip around the Peleponnesus, was 80 ft. wide and provided 26 ft. of water at mean depth. Operated by a private company, it is owned by the Greek government.

mouth of the Rhine River, four miles from Rotterdam, and will have a capacity of 20,000 barrels of crude daily. Oil will come from expanded production of Saudi Arabian oil fields.

Owned jointly by the Standard Oil Co. of California and the Texas Co., the company early this year acquired a former Texaco refinery at Bordeaux, France.

Irrigation . . . .

Union of South Africa—A $40,000,000 irrigation program for Orange Free State was announced at Pretoria last week in which Union of South Africa officials said the program would virtually remake the economy of the Free State.

Set up on regional lines, the project will be capable of irrigating some 120,000 acres of now arid land, in a line 160 miles long extending almost exactly across the middle of the state. Initial features will be construction of storage dams on the Vet and Sand rivers, and the later construction of a diversion dam on the Caledon River—a project that would involve some 17 miles of tunnel construction.

India—Nearly 2,000 laborers and some $750,000 worth of equipment are scheduled to begin work this month at the site of Hirakud Dam on the Mahanadi River in Orissa Province (*ENR* Jan. 2, vol. p. 4). While calyx and diamond-drill crews start their work, bulldozers will begin clearing a truck road from Sambalpur, the nearest railroad point.

Miscellany . . . .

Lebanon—The Lebanese government said last week it had opened a contest for design of a new courthouse in Beirut for participation by architects and engineers throughout the world. A first prize of $3,000 is offered. Further information on the contest is available through the Consulate General of Lebanon, 12 East 68th Street, New York City.

Puerto Rico—A contract for the construction of the 12-story reinforced concrete Garibe-Hilton Hotel at San Juan has been awarded to the George A. Fuller Co., the Puerto Rico Industrial Development Corporation said.

Mexico—Petroleos Mexicanos has announced the award of a contract for the design, engineering, purchasing and construction of a complete new petroleum refinery at Salamanca to the Arthur G. McKee and Co., of Cleveland, Ohio.

***British Housing**—Facing the need to provide some 5,000 housing units in the next five years, officials of York, England, have filled every available space with temporary structures while more permanent-type buildings (background) are built. The small units are prefabricated metal homes.*

Ohio welfare body launches building plan

The Ohio Welfare Department is launching the largest rehabilitation and new construction program in its history, following release by the State Board of Control of $5,798,775 for repairs and capital equipment.

The department is planning to spend $7,519,213 at the 27 institutions throughout the state, and the release of the funds will permit the state to advertise for bids soon. Included in the program is a 500-bed $3,300,000 hospital unit at the Apple Creek State School, near Wooster.

75-YEAR-OLD WOOD PIPE

While excavating for the Wisconsin Avenue widening project at Milwaukee, Wis., workmen uncovered about 200 ft. of water pipe made of cedar and tamarack logs.

Samples of the old pipe indicated that the wood is in excellent condition. The pipe is made of 6-in. logs with 2½-in. bores. Laid in sections 10 to 12 ft. long, the pipe units are held together by hand forged iron rings. To join the sections, the men who laid the pipe whittled down one end of each section until it was small enough to slip into the larger end of the pipe next in line.

Joseph P. Schwada, city engineer, believes that the pipe was laid at least 75 years ago by private firms to bring water to hotels on what was then Spring Street. The city began to lay cast iron mains in 1871.

Big highway projects rushed in S. E. Idaho

State and federal highway repair in southeastern Idaho has been rushed to completion ahead of winter weather. C. A. Kelly, district state highway engineer, said the projects make one of the heaviest reconstruction years the district has seen.

Included were a surfacing and widening job on Yellowstone highway between Blackfoot and Firth, surfacing between Fort Hall and Blackfoot, repaving and widening between North Bannock fairgrounds and Fort Hall reservation, rerouting of U. S. highway 30N for seven miles west of Lava Hot Springs, and installation of four 10-ft. diameter culverts where U. S. 30N crosses the Portneuf river.

U. S., Canada establish arctic weather stations

Successful establishment of two new arctic weather stations—a joint Canadian-American venture—was announced in Ottawa Oct. 21. Now sending out weather reports four times a day, the first station is on the east side of Ellesmere Island at Eureka Sound, only 600 miles from the North Pole. The second and main station is on Cornwallis Island at Resolute Bay near the western end of Barrow Strait.

The two stations are the first of nine planned for various parts in the Arctic to be set up during the next three years. All will be manned jointly by U. S. and Canadian personnel.

Reclamation bureau plans $2 billion program to double western farmland

Krug tells National Reclamation Association of seven-year bureau program—Officials stress need for control of silting—Straus sees biggest construction year

A 7-year, $2,000,000,000 reclamation program that would in effect double the irrigated farmlands of 14 western states, was outlined last week to members of the National Reclamation Association at their 16th annual meeting at Phoenix, Ariz.

Discussing the program for future development of natural resources in the West, Secretary of Interior J. A. Krug told convention delegates that the Bureau of Reclamation — contingent on Congressional appropriations—plans to bring new and supplemental irrigation to some 4,000,000 acres of land, and increase hydroelectric power available in the 14 states by about 2,250,000 kw. of generating power.

Going further into the potential development of the West through the bureau's activities, Mr. Krug estimated all potential reclamation work in the West to total about 15,000,000 acres and up to 25,000,000 kw. of unexploited hydropower, with a potential over-all cost of about $15,000,000,000.

"This reservoir of construction projects should be explored, for use whenever the level of employment and private construction falls below that which is sound for the American people," he added.

Mr. Krug's address was a highlight of a 3-day session that included talks by Lt. Gen. R. A. Wheeler, chief of the Corps of Engineers; Michael A. Straus, commissioner of the Bureau of Reclamation; William A. Warne, assistant Secretary of the Interior; Sen. Hugh Butler, chairman of the Senate Committee on Public Lands, and many other leaders in the fields of conservation and reclamation.

Reclamation's biggest year

The greatest construction program ever undertaken by the Bureau of Reclamation has been witnessed during the last year, said Michael W. Straus, U. S. Commissioner of Reclamation. He reported that at the beginning of the fiscal year, outstanding contracts amounted to $125 million, and that in the next twelve months 3,000 contracts will be awarded, totaling another $125 million. Construction operations are increasing 50 percent ahead of corresponding months last year.

There is no economy, warned Commissioner Straus, in "dragging out" jobs on which work has been started. An economical construction program probably will mean that the Grand Coulee-Columbia Basin project, the Colorado-Big Thompson job and the Davis Dam project will go broke, so far as available funds are concerned, some time after Feb 1, or well before the end of the fiscal year, which is July 1.

Before that time comes, he continued, the situation will be reported to Congress and additional appropriations will be asked. "We know the cost of closing projects because we were required to do so in the war years. But it is unjustifiable waste . . . to deliberately slow down construction so that it drags on with continuing non-productive overhead."

The Reclamation Bureau will also ask Congress to knock off "handcuffs" that were applied in the appropriations action last year, said Mr. Straus. One of these is the prohibition against government force-account work. The other is a limitation on engineering and design work.

Warn of silt danger

Mr. Warne and Secretary of Agriculture Clinton P. Anderson devoted a major portion of their talks to pointing out the need for greater attention to the problem of silting in western streams and reservoirs, and measures to halt that process.

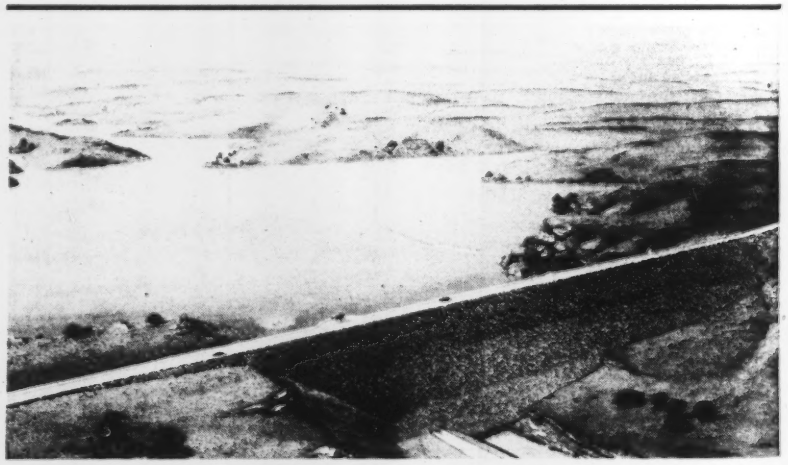
They pointed to Elephant Butte reservoir on the lower Rio Grande, Guernsey Reservoir in Wyoming, and others as examples of virtual loss of purpose because of heavy silt deposits, and cited other examples of streams gradually building up their beds to dangerous levels through increased silting.

In the opinion of Mr. Warne—which reflects thinking on the highest levels of policy within the Department of the Interior — the Bureau of Reclamation must broaden its planning to "include both channel aspects and also the watershed itself, high up out of the stream," if progress is to be made in the control of sedimentation.

New dams to replace losses of storage due to siltation will give only temporary relief, said Mr. Warne. This kind of relief may get us by the present generation and perhaps well into the next, but there is a limit to the number of reservoir sites that can be used for this purpose.

Discussing this and related problems of agriculture, Mr. Anderson voiced what some observers saw as a reversal of previous Department of Agriculture policy, in calling for "an organized, sustained and realistic abundance" in the production of farm products.

In an annual report, Don McBride, secretary-manager of NRA, urged adherence to a firm policy of making appropriations in each fiscal year in amounts adequate to "carry on construction at the most efficient . . . economical rate."



***Ask Bids on North Dakota Dam**—The Bureau of Reclamation has called for bids on Heart Butte Dam, an earthfill structure to be located on the Heart River, about 18 mi. south of Glen Ullin, N. D. The dam will be a part of the Missouri Basin development program, and will be used for flood control and irrigation. It will be 125 ft. high above the river bed, and have a crest length of 1,850 ft. Bids are to be called Nov. 19 at Bismarck, N. D.*

Middle Rio Grande project approved by Reclamation, Army engineer chiefs

Straus, Gen. Wheeler express belief $94,000,000 expenditure would be justified—Some opposition in Elephant Butte district

The proposed Middle Rio Grande project, for flood and sedimentation control of the Middle Rio Grande valley in New Mexico and rehabilitation of the present Middle Rio Grande Conservancy District, should reach Congress by the middle of February, Lieut. Gen. R. A. Wheeler, chief of the Corps of Engineers, and Michael Straus, reclamation commissioner, said during visits to New Mexico last week. Cost of the project is estimated at $94,000,000.

Both General Wheeler and Commissioner Straus said they would recommend that Congress authorize construction of the project. However, the proposal, which has been in the planning stage for several years, is drawing marked opposition from the Elephant Butte District in southern New Mexico and northwest Texas.

The proposed project would be a joint one of the Reclamation Bureau and the Army Engineers, with the engineers assuming flood and sedimentation control responsibility and the reclamation taking over and rehabilitating the present Middle Rio Grande Conservancy District.

Of the $94,000,000 price, about $18,000,000 would be for rehabilitation of the irrigation structures, and would be re-imburseable to the government by assessments on property. The remainder would be for flood control to be borne entirely by the federal government.

Project Opposed

Opposition to the project which is springing up at Las Cruces, N. M., and El Paso, Tex., both in the Elephant Butte Irrigation District, uses as the principal argument against it the fear that additional dams on the upper Rio Grande might decrease the amount of water entering Elephant Butte reservoir. Secretary of Interior Krug, in El Paso Oct. 27, declared the government has no intention of depleting the supply of water of the Elephant Butte District. General Wheeler and Commissioner Straus at Albuquerque made practically the same statement, and also said the proposed dams would be operated under the Rio Grande Compact to deliver to Elephant Butte the amount of water specified by the compact.

The main phases of the proposed work are:

1. Construction of a flood and sedimentation control dam at Chiflo, on the Rio Grande just south of the New Mexico-Colorado line.
2. Construction of a similar dam at Chamita, on the Rio Chama a few miles above its junction with the Rio Grande.
3. Construction of a third flood control and sedimentation control dam on the Jemez River, a few miles above its junction with the Rio Grande.
4. Improvement of levees for flood protection throughout the middle valley.
5. Rectification and lowering of the Rio Grande channel, including dredging operations to drain the San Marcial swamps, above Elephant Butte Lake.
6. Bluewater floodway, consisting of a series of levees to protect irrigated lands of the Bluewater-Toltec Irrigation District, some 80 miles west of the Rio Grande.
7. Hot Springs floodway, principally a series of levees to protect the town of Hot Springs, N. M., just below Elephant Butte Dam from flash floods coming down dry arroyo beds.

PERSPECTIVE . . . .

District 50 gains little in AFL

It will take more than an aspirin to rid the building trades unions of the district 50 headache. But the headache apparently isn't getting any worse.

John L. Lewis didn't mince words at San Francisco when delegate after delegate rose to attack the poaching of his United Mine Workers' catch-all district on other union jurisdictions.

"Don't push us around," Lewis warned. "District 50 is a going concern. . . it has nothing to give away."

To Richard J. Gray, head of the building trades, a principle was involved. It was simple, he said: Is the AFL going to have two Building Trades Departments? Or is the charter of his department going to be honored?

District 50 was on trial for invading the building trades, metal working plants, garment industry, railroads, chemicals. The motion before the AFL convention was to convene a meeting of interested unions to iron out "questions of jurisdiction" with the miners.

Lewis rebelled. He would not give up any members without a fight.

"Big Bill" Hutcheson, head of the carpenters, came to the rescue.

"Refer the matter to the executive council," he moved. "That's regular procedure." And that's where the matter is, has been and will remain for a long time.

Nobody seriously expects the executive council to solve the problem when it takes it up in January, or any time soon, for that matter.

Lewis feels he has a right to organize any worker wherever he may find him, and this attitude will probably cause some irritation in the construction industry—but not much.

The United Construction Workers—a District 50 affiliate headed by Lewis' brother, A. D. (Denny) Lewis—is not a serious threat to the building trades unions. Most of its membership is employed in building materials plants or in unrelated industries.

Gray's chief complaint concerned mine construction work. "Denny" Lewis advised him that miners would do such construction where the employer preferred to use his own workers. If it was done on contract, the UMW would insist on AFL workers.

Since UMW is not qualifying to use NLRB facilities, it frequently may strike for recognition. Except for that, trouble is likely to be kept largely within the bounds of the unions. Even there, it seems there is more principle than specific issue at stake.

Delaware River bridge to be widened to 8 lanes

The Delaware River Joint Bridge Commission has taken the first steps toward the projected widening of its bridge to eight lanes.

The commission awarded contracts to: Modjedski and Masters is to report on construction needs and costs; Harbeson, Hough, Livingston and Larson, Philadelphia architectural consultants, were given the job of submitting plans for necessary architectural changes; and Louis T. Klauder and Associates got a contract to decide what electrical work will be needed.

HIGHLIGHTS OF MUNICIPAL DEVELOPMENTS

Summarizing current activities in city engineering and construction throughout the country.

Louisville considers $9 million grade crossing elimination program —Los Angeles begins first work on harbor parkway—Detroit sets up parking authority—Columbus plans $5 million dam reservoir

A $9,000,000 program seeking elimination of 18 grade crossings on the Louisville & Nashville Railroad tracks along Frankfort Avenue was under consideration at Louisville, Ky., last week.

City councilmen directed J. B. Wilson, city works director, to study possibilities, after reviewing figures that showed an average of two persons have been killed each year at the crossings during the past five years. The tracks parallel Frankfort Avenue for several miles.

The city has funds available from a $5,000,000 bond issue approved in 1944, for financing its share of the cost.

Other developments looking toward the elimination of traffic bottlenecks included:

At Los Angeles, work on the first section of a $43,000,000 21-mile Harbor Parkway got under way after city officials had received a low bid for a grade separation at Temple Street that was "substantially" below estimates. Other contracts will be let in quick succession to extend the highway southward.

The parkway will be built just west of Figueroa Street, with entrances and exits at new 1-way thoroughfares—Fifth, Sixth, Eighth and Ninth Streets—scheduled to become 1-way streets in the near future (*ENR* April 17, vol. p. 574.) Work is already under way on the 4-level grade separation connecting the parkway with the Hollywood and Arroyo Seco Parkways.

The Massachusetts Department of Public Works announced that it will submit to the next meeting of the state legislature, a master plan for metropolitan Boston in an effort to eliminate further stopgap proposals for the city.

At Moline, Ill., the city council expressed opposition to the projected routing of a federal superhighway through the city. The council's special highway committee, named to confer with a similar group from Rock Island on the matter of the multi-million dollar 4-lane highway proposed for the area, will recommend that Moline officially oppose the route.

Detroit parking authority

At direction of the Detroit, Mich., common council, the city's attorneys started work setting up a municipal parking authority which would have power to take bids for construction of a $3,750,000 underground parking facility in the downtown area, and to operate it.

The new garage will cover a 2-block area under Washington Boulevard, from Grand Circus Park to Grand River. There will be entrance and exit ramps in each block. No condemnation on present properties will be necessary, since by the creation of a special assessment district, owners of property abutting the project will pay $500,000 toward costs, and the city will contribute $750,000. Further funds will come from a proposed $1,304,000 bond issue.

On the question of parking, Xenia, Ohio, has relaxed to peace after a strained week of argument between the city council and the county commission over the city's right to place parking meters along the block-long length of Green St. The street, which skirts the county courthouse, was studded with parking meters several weeks ago at the city's order. County commissioners, objecting to being forced to pay the 5-cent fee, searched their records and discovered that three feet of the roadway belonged to the county. They immediately ordered workmen to take out the meters and in addition to tear up the three feet of street and install additional sidewalks.

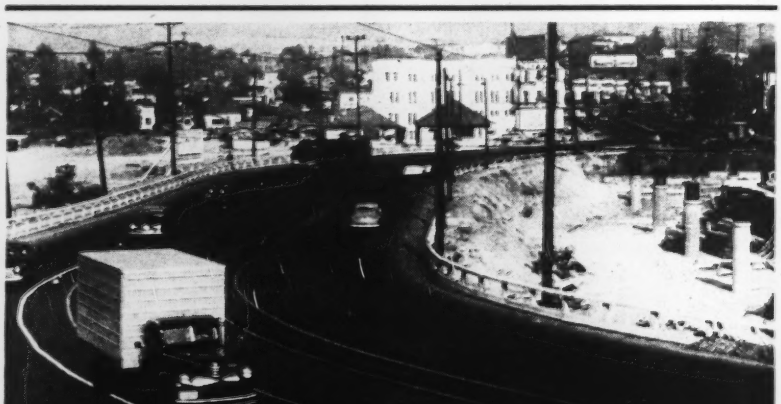
City officials surrendered, the parking meters were removed, and the street remained undamaged.

Columbus reservoir

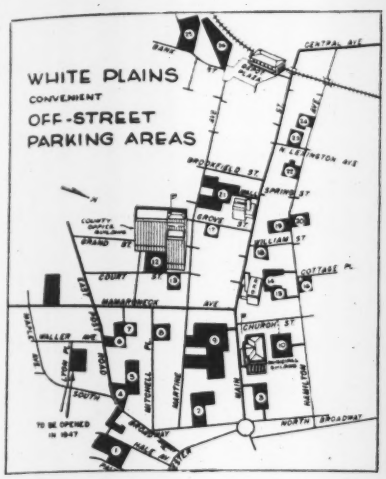
Columbus, Ohio, began legal steps to obtain land for a proposed $5,000,000 dam to supplement the city's water supply. City councilmen were told that legislation declaring the city's intent to acquire land and proceed with construction of the dam would be before them shortly.

The dam—to be known as Hoover Dam after C. B. and C. P. Hoover, respectively superintendent and chief chemist of the Division of Water—is to be located on Big Walnut Creek, and will be an earth-fill structure 2,000 ft. long with a crest 80 ft. above the stream bed. The reservoir itself will cover more than 2,700 acres of land to make it one of the four largest bodies of water in the state.

At Inglewood, Calif., city council-



City Detour DeLuxe—This first-class detour on Sunset Boulevard—one of the most heavily-travelled streets in Los Angeles, Calif.—was required during construction of an overpass over an extension of the Arroyo Seco Parkway. The detour is six lanes wide, has two streetcar tracks, and carries an 18-in. cast iron water main. It is located just north and east of the four-level grade-separation which marks the intersection of two major Los Angeles Freeways (ENR April 17, vol. p. 575).



***Parking Space**—As a service to shoppers and others, the Civic and Business Federation of White Plains, N. Y., county seat of Westchester County, has issued and distributed the above map showing the location of off-street parking areas in the business section of the city.*

men received a 477-page report recommending that the city annex itself to the Metropolitan Water District of California within the next eight years because of its own inadequate underground water supplies.

N. Y. revives smoke control

Prospects for more vigorous action to curb smoke nuisances in New York City were seen last week with the introduction in the city council of a new regulatory bill and the disclosure of new Health Department activities.

The bill would amend the administrative code to make it a misdemeanor to "allow dense smoke to be discharged" from any building, premises, engine or ship. Violators would be subject to a maximum penalty of $500 fine and six months in jail. No specific enforcement agency was named.

The measure was seen as putting smoke elimination into the province of the city's general police powers, but it actually differs little in general approach from the sanitary code provision now in force which gives the health department jurisdiction.

Councilman Joseph T. Sharkey, who submitted the bill, said that the greatest flaw in existing provisions had been the fact that the health department has acted only on actual complaints of excessive smoke. Health department officials said that in recent months the system has been revamped, and a special section of the department's Bureau of Sanitary Engineering has been assigned to enforcement work.

Extension of San Diego Aqueduct started

Construction has started on the $1,415,000 La Mesa-Sweetwater extension of the San Diego, Calif., aqueduct (*ENR* March 6, vol. p. 362). The 17-mile branch will tie into the aqueduct at a point near the west portal of the San Vicente Tunnel, continue 4½ miles to the crossing of the San Diego River bed, and then follow a general southerly direction east of El Cajon and La Mesa on to its outlet at Sweetwater reservoir.

The aqueduct will serve National City, Chula Vista, Lakeside, La Mesa, Lemon Grove and Spring Valley, through gravity flow.

Approximately 1,200 ft. of 42-in. concrete steel pipe has been laid thus far on the 3,855 ft. crossing of the San Diego River. Work will begin soon on the 22,000-ft. stretch of line from San Vicente reservoir to the river bed. This will be 24 x 18-in. pipe. The 42-in. pipe used in the river bed provides for any future increase in pipe-line capacity between the reservoir and the river.

Work is also starting on laying of the 18-in. and 24-in. pipe south from the river and north from Sweetwater reservoir. The branch line is scheduled for completion next February.

Preliminary work has been under way on the construction of a second 17-mile branch pipe line through which Oceanside will receive Colorado River water. In a test conducted on the aqueduct during the first week in October Colorado River water flowed for the first time into San Diego County.

Long divided highways planned for Alabama

Plans are being considered by the Alabama State Highway Department for the construction of a series of divided-lane highways covering some 400 miles. These highways will be parallel wherever possible and not far apart.

Highway Director Ward W. McFarland said roads of this type between Spartanburg and Greenville, S. C., have proved successful and relatively free of accidents. Each of the Alabama highways will be 2-lane in each direction, running south from Mobile to the Mississippi line on U. S. 90 and U. S. 31 between Athens and Mobile via Decatur, Birmingham and Montgomery.

The current highway program will be devoted largely to farm-to-market roads and widening of state roads. It will take until October, 1948, to catch up on the $17,000,000 of contracts let prior to January, 1947, Mr. McFarland said.

Port of N. Y. Authority creates engineer board

Preparing for its rapidly expanding operations, the Port of New York Authority last week announced creation of a board of five engineers to advise on engineering responsibilities.

J. C. Evans, formerly chief engineer for the authority, was promoted to the post of chairman of the new board. Other members, all connected with New York engineering firms, are: George W. Burpee, Coverdale & Colpitts; Max H. Foley, Vorhees, Walker, Foley and Smith; Rear Admiral Frederick R. Harris (USN ret.); and William H. Mueser of Moran, Proctor, Freeman and Mueser.

J. H. Kyle, Jr.

J. C. Evans

Mr. Evans, particularly noted for his planning of the New York and New Jersey approaches to the George Washington bridge and the Lincoln tunnel and the traffic interchanges at the Triborough Bridge on Randall's Island, is a graduate of the University of Pennsylvania. He joined the Authority in 1928 and became Chief Engineer in 1937.

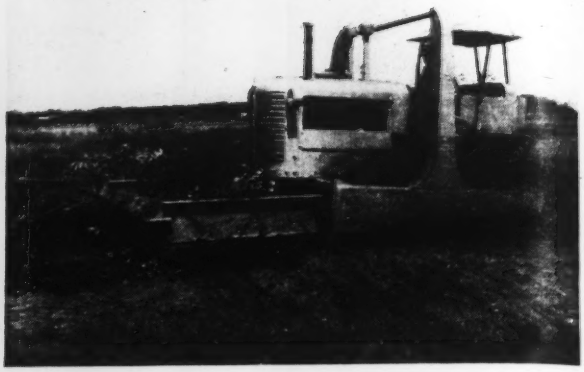
He will be succeeded as chief engineer by John H. Kyle, Jr., formerly assistant to the chief engineer. Mr. Kyle, who joined the Port Authority in 1946, after service in the Army Corps of Engineers, is a graduate of Stevens Institute of Technology and was previously chief engineer of the George J. Atwell Foundation Corporation of New York City.

NEVADA SAVES $17,000 ON THE DOTTED LINE

The difference between a solid white line and a dotted line on Nevada highways will mean a $17,000 saving this year to taxpayers, reports Highway Engineer William Holcomb.

A broken white line, which costs a little more than $12 a mi., has been substituted for the solid white center line, which costs $22 a mi. The highway department plans to stripe 1,746 mi. of highway before the end of 1947.

***In building** new farm drains flat slopes are used and the ditches are cut successfully with terracing machines. Farm equipment will be used for maintenance work.*



***To flatten** the steep side slopes of existing ditches, a special attachment that permits the material to be pulled back from the ditch is used.*

Maryland and Delaware Construct Big Drainage Project

Forces are now at work in the Pocomoke River basin in Maryland and Delaware on what is, according to the U. S. Soil Conservation Service, the largest agricultural drainage project east of the Mississippi. Wicomico and Worcester soil conservation districts of Maryland late in July completed the principal drainage ditch to the state line and are now continuing work on the smaller ditches, while the Sussex County soil conservation district of Delaware is advancing construction of the main waterway by similar methods.

The project provides drainage for 159 sq. mi. (see map). About one-fifth of the area benefited is in Delaware and the remainder in Maryland.

The biggest task in the latter state was cutting a new channel for 14.4 mi. of the meandering Pocomoke River through wooded swampy country. This Maryland section, which has just been completed, shortened the river by 3 mi. and required 1,340.000 cu. yd. of excavation. At the lower end the new channel has a bottom width of 60 ft., an 8-ft. depth, and 2 to 1 side slopes, making the top width 92 ft. It has a capacity at this location of 1,526 cfs.

Land equipment is used

Because of the wooded and unstable ground to be crossed and the difficult labor situation, construction of the new channel was a slow task. The typical soil condition consisted of 2 to 4 ft. of organic soil or muck over a fairly deep layer of sand. Despite the considerable water encountered, two crawler draglines equipped with 1½ cu. yd. buckets, rather than floating rigs, were used, work being started in 1940.

As the draglines advanced—one on each side of the channel—a sand fill about 3 ft. thick was placed over the muck and stumps. In some of the worst places a corduroy road was built. By use of heavy timber mats, the draglines were then able to work on these roads. Moreover, with some added work with a bulldozer after the dragline had passed it was possible to improve the roads sufficiently so that they could be used by trucks. The roads will be of great value on maintenance work.

Work planned in Delaware includes construction of 7 mi. of main channel, this work having already been started. Improvement of about 119.5 mi. of tributaries and laterals in the two states is also planned. A total of 43 mi. of these latter ditches already has been excavated.

On construction of the farm ditches the side slopes are being made sufficiently flat so that silting will be reduced and farm equipment can cross and maintain the ditches. To do this work terracing rigs of the type illustrated are proving successful.

Soil Conservation Service engineers have found that most of the local drainage ditches built many years ago in the area were ineffective because they were put in with limited planning, inadequate outlets, and side slopes much too steep. The latter condition has prevented proper maintenance and too often extensive shrubbery developed along both sides of the ditch.

***Two draglines,** one operating at either side, are being used in building the new river channel. At the most difficult locations, temporary corduroy roads, which are covered with a few feet of sand are built to permit the draglines to operate on specially prepared timber mats.*

In improving sections of the existing ditches that could be used as part of the present project some method had to be found for cutting down the side slopes without having the equipment operate in the ditch. The special attachment shown on page 10 was developed for this work. It is substituted for the blade of a bulldozer and is proving satisfactory.

This attachment is known on the job as a "grabber." It permits the material from the side slopes to be pulled back from the ditch by operating the tractor in reverse. The attachment was constructed by welding the 8-ft. long mold board and cutting blade from one of the terracing rigs to an 18-in. I beam, which in turn was welded at either end to a short section of a 14-in. beam. The short beams are attached to the tractor with bolts and may be quickly substituted for the bulldozer blade. The special blade, which was built for about $200, is being used in Maryland by the Wicomico Soil Conservation District.

The local soil conservation districts are obtaining assistance from several sources in addition to U. S. funds. A special Maryland appropriation of $30,000 has been administered by Ray W. Carpenter, state drainage engineer. County governments and tax ditch associations have also contributed local funds. Much of the construction work is being handled by general contract.

John G. Sutton, head of the drainage section, Soil Conservation Service, was responsible for the preparation of design plans for the work. The Soil Conservation Service regional office is represented by Walter S. Atkinson, regional engineer. The state conservationists, Edward M. Davis for Maryland, and Richard Snyder for Delaware, direct activities in their respective states. William S. Ott, district conservationist, is in charge on the job.

***Project calls** for cutting a new channel for the Pocomoke River for 14.4 mi. in Maryland and 7 mi. in Delaware, and improvement of almost all of the tributaries shown.*

NO SHUT-OFF SWITCH?

An argument that assumed the proportions of a really public quarrel last week has resulted in the summary dismissal of an assistant mechanic on a pavement striper operated by the Ohio State Highway Department. In the cold language of a removal order, filed by the department, the worker lost his job because, after arriving late for work he "wrangled and quarreled with the driver, and this was broadcast over the public address system attached to the striper."

The Highway Department contended that this "tended to create a bad public impression of, and adversely reflect against, the character, conduct, and behavior of state highway department employees".

CAA and air industry discuss runway needs

Informal hearings on standards to be set by the Civil Aeronautics Administration governing the length and strength of runways for various kinds of air carrier operations were held in Washington last week.

Pointing out that such hearings are not required by law, T. P. Wright, administrator of the CAA said that his organization wanted the opinion of all interested parties before finally establishing the runway standards. "The matter is of economic importance to all who are concerned with the construction of airports and to all who design transport airplanes," Mr. Wright said.

In a proposed statement of "policy on runway strength and dimensional standards for airline operations", the CAA lists standards to be required on four kinds of airports according to the type of airline operation they serve. "Feeder" airports would have runways 3,500 ft. long and landing strips 300 ft. wide, with a maximum pavement loading of 15,000 lb. for single-wheels and 20,000 lb. for dual wheels. "Local" airports runways would be 4,500 ft. long, landing strips 400 ft. wide for wheel loading of 30,000 to 40,000 lb. "Express" airports would have runways 6,000 ft. long, strips 500 ft. wide, and wheel loadings of 60,000 to 80,000 lb. "International" airports would have 7,000 ft. runways, strips 500 ft. wide, and pavement strengths sufficient for 60,000 to 80,000 lb. wheel loads.

These standards are for airports at sea level. For each 1,000 ft. increase in altitude an additional 250 ft. of runway will be required.

Rain-making by plane to be tried in Canada

Experimental "bombing" of rain-clouds in an attempt to create vitally needed rain is to be tried out in northern New Brunswick for the Bathurst Power and Paper Co., which operates a large plant at Bathurst, N. B. The work is to be carried out by Bathurst Air Services Limited, which holds a government contract for aerial patrol of New Brunswick forests. Low water in the Nepisiguit River has cut available hydro power critically.

The company also operates a steam power plant at Bathurst but this, too, has had its output cut by a serious mechanical breakdown. The mill is therefore operating on a part-time basis only and it is in view of this serious situation that the rain-making experiment is being tried.

Cut water tax rate in Los Angeles district

A 27 percent cut in the tax rate of the Los Angeles Metropolitan Water District for the coming year was announced last week, after approval by the district's board of directors. The 1946-47 rate of 48 cents per $100 of assessed valuation was cut to 35 cents.

The report said that the reduction was made possible by an increase in the district cities as set up this year by the county assessors; the annexation last November of the San Diego County Water Authority, which added $266,000,000 to the assessed valuation of District areas, and a marked increase in the sale of softened Colorado River water to cities within the water district.

Sign first new-type pact for Central Valley water

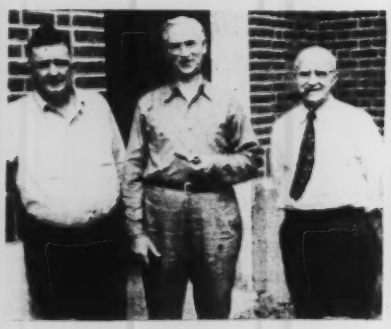
The first Bureau of Reclamation contract to provide for both the sale of water from California's Central Valley project, and guarantee repayment of canal construction costs was approved recently by the Orange Cove Irrigation District directors.

The contract provides for delivery of 31,800 acre-ft. annually from the Friant-Kern Canal, and fixes the district area at 21,000 acres. Before the contract can become effective, a distribution system must be built at a cost of about $5,341,000. Money to pay for this installation will be advanced by the Bureau interest-free, with the district repaying in 40 equal yearly payments.

MEN AND JOBS

Merrill Bernard (left), chief of the climatological and hydrologic services of the U. S. Weather Bureau, and Vernon Rupp, regional engineer for the bureau at Los Angeles, relax in Washington, D. C., on an ASCE outing.

Edgar S. Walker, maintenance engineer with the District of Columbia sewer department, at a Washington outing proves that engineers can play ball as well as work hard.



Improvements to the New Castle, Pa., sewage treatment plant are being expedited by (left to right): Robert Stelter, superintendent of construction for Mathew Leivo and Sons, contractor on the job; C. L. McMillen, plant operator; and John Z. Street, city engineer.

Caleb Grafton Roberts, chief engineer of country roads for the state of Victoria, Australia, is in the United States as a representative of his government to study highway construction here. Here he is seen at Oakland, Calif., airport just after alighting from plane from Australia.

Forrest Talmadge Green, field engineer for the Portland Cement Association and former engineer with the North Carolina State Highway Department, has been appointed assistant city manager and purchasing agent at Wilson, N. C. He received his civil engineering degree from North Carolina State College, and formerly was a roadway department engineer with the highway department. He joined the cement association after being released from the Army with the rank of lieutenant colonel.

E. W. G. Oke has been named the first city engineer of Cochrane, Ont. He is a graduate of Peterborough Collegiate Institute.

Donald M. Ditmars, formerly with the New Jersey State Board of Health as a sanitary engineer, and **Robert A. Lincoln,** formerly colonel, Corps of Engineers, Mediterranean Theater of Operations, have joined Bogert-Childs Engineering Associates, 624 Madison Ave., New York 22, N. Y.

Louis H. Goss has been appointed city engineer of Redondo Beach, Calif. He was formerly city engineer of Monterey Park. He will fill the post made vacant by the recent death of William R. Barclay of Hawthorne.

C. Hohn, now with the Texas A. & M. College Extension Service, has been chosen by Lower Colorado River Authority directors to supervise a soil conservation program along the 10-county watershed. The board recently announced a policy of providing assistance to farmers in combatting soil erosion.

John S. Galbraith, has resigned as director of community planning for the National Housing Administration, Ottawa, Ont.

Jack H. Maxwell has joined the firm of Crawford, Murphy and Tilly, Springfield, Ill., consulting engineers. A graduate of the University of Wisconsin civil engineering school, he has been employed by the Wisconsin highway commission, and the Interstate Power Co., Dubuque, Ia., and since 1941 he has been assistant engineer, division of waterways, for the state of Illinois.

C. F. Sproul, Defiance, Ohio, has been appointed sanitary engineer for the Defiance County Health Department. The State Health Department has granted additional funds to assist the county district formed last April by a merger of Defiance City and Defiance County sanitary districts.

A. Herbert Schumacher, former engineer for the Missouri Public Service Commission, has been appointed utilities engineer for Kansas City, Mo., succeeding **Thomas Chenoweth,** recently appointed assistant city manager.

G. Douglas Andrews, chief engineer of the Metropolitan district of Baltimore County, Md., will resign, effective Dec. 31, to return to private practice. Mr. Andrews served as a major in the Corps of Engineers in the first world war and later was PWA administrator for Pennsylvania.

William S. Ruggles, formerly executive engineer with Industry Engineers, Inc., of Chicago, has accepted a position as structural engineer with the C. S. Engineering Co., Springfield, Ill.

Benjamin A. Morgan, Jr., construction engineer for the Celanese Corporation of America, is now located in Rock Hill, S. C., and is in charge of the construction of that company's Celriver project. He recently completed an assignment in Mexico.

Robert D. Jonap has been appointed resident manager-engineer of Kohorn Constructora De Plantas Rayon, S.A., Panama, a subsidiary of Oscar Kohorn and Co. Ltd. of New York, industrial engineers specializing in the design, installation and operation of complete rayon manufacturing plants. The Panama office will coordinate all field engineering activities of Kohorn plants now under construction in South America. Mr. Jonap was formerly on Isthmian

Canal studies with The Panama Canal and during the war served as a reserve officer in the Civil Engineer Corps, U. S. Navy.

Dames & Moore, civil engineers, have announced the admission to junior partnership of **L. LeRoy Crandall** and **William W. Brewer,** who will serve as chief engineers, respectively, of the company's Los Angeles and San Francisco offices. Both are graduates of the University of California. Brewer, who joined the firm in 1942, acted as field engineer in charge of investigation of foundation conditions in the construction of docks and quaywalls at Hunters Point Navy yards. Crandall, with the firm since 1941, acted in a similar capacity in the construction of a number of aircraft plants and other war factories in the Los Angeles area.

The firm also announced the appointment of **William Enkeboll** to head its operations in the Seattle and Portland, Ore., areas. A graduate of the University of Washington in 1935, Enkeboll recently took his doctorate in soils at the Massachusetts Institute of Technology.

A. L. Overbee has been appointed district engineer at St. Paul, in charge of federal aid road work in Minnesota, taking the place of L. J. Charles who has retired after 42 years of government service. Mr. Overbee is a graduate of the University of South Dakota and started with the North Dakota highway department in 1919 and left it in 1934 as assistant construction engineer to become a highway engineer with the Public Roads Administration. E. A. Sparks has been named acting district engineer in South Dakota to fill the position vacated in that state by the transfer of Mr. Overbee.

W. J. Murphy, formerly of Rochester, Minn., has been named county engineer for Burke and Mountrail counties.

Hugh H. McCallum, since January, 1940, division engineer of the Third (West Florida) division of the state highway department, has been appointed assistant state highway engineer at Tallahassee. He is a civil engineering graduate of the University of Florida. McCallum's former position is now filled by **George L. Dickinson,** previously serving as assistant division engineer in charge of construction. He is a civil engineering graduate of Georgia Tech, 1924.

Robert A. Andrews, of Miami, has been appointed deputy to the chief engineer of the Florida state water resources program.

Civilian employees of the Corps of Engineers on construction of the U. S. Army Air Forces 10,000-ft. long 300-ft. wide 21-in. thick concrete runway at Patterson Field, Osborne, Ohio, include (left to right): O. S. Rezner, pavement inspector; George Kinsloe, assistant project engineer; and A. E. Neely, inspector of construction.

Inspecting the subgrade for a 10-ft. concrete approach lane to a 3-lane highway under construction near New Alexandria, Pa., are (left to right): J. R. Slate, co-owner of the Latrobe Construction Co., of Latrobe, Pa.; W. E. Robison, assistant construction engineer, Pittsburgh District, Pennsylvania Deparment of Highways; Tom McKay, concrete inspector; and R. Sample, inspector on construction.

At ground breaking ceremonies for a $5,645,700 veterans hospital at Fresno, Calif., are left to right, Dr. James S. Donnelly of the Veterans Administration; Mayor Glenn M. DeVore of Fresno; Col. Joseph S. Gorlinski, newly-appointed district engineer for the Sacramento district; Rep. Bertrand W. Gearhart, Fresno, and Col. Charles H. McNutt, assistant district engineer. Turning the shovel is Victor Maghakian, called Fresno's "most decorated veteran." Contract for the 7-story structure is held by James I. Barnes Construction Co., Santa Monica, Calif. Master & Hurd, Haker & Knapick, San Francisco, were architect-engineers.

Engineers' Council plans expansion of educational testing activities

Participation in development of an education testing service authorized at ECPD meeting in Montreal

Wide acceptance of the pre-engineering inventory as a means for selection and guidance for prospective students has resulted in a decision by the Engineers Council for Professional Development to cooperate with other professional organizations in the establishment of a permanent education testing service to take over and expand the current testing work. The current testing work is sponsored jointly by the council, the American Society for Engineering Education and the Carnegie Foundation for the Advancement of Teaching.

This decision was made at the 15th annual meeting of the ECPD, held in Montreal, Que., Oct. 24-25, as guests of the Engineering Institute of Canada, one of the eight engineering societies participating in ECPD. At that meeting. K. W. Vaughn, director of the Measurement and Guidance Project in Engineering Education, reported to the council that the Carnegie Foundation, which to date has advanced $30,000 to assist in getting the project started, soon will advise the other sponsors that it will withdraw as the undertaking is now on a self-supporting basis. He said, however, that the foundation probably would finance further research required to expand the program.

Upon the recommendation of Carl J. Eckhardt, Jr., chairman of the ECPD Committee on Student Guidance and Selection, the council voted to cooperate with the medical and other professions in setting up an education testing agency under the American Council on Education. This agency would take over the engineering testing, but all policies still would be established by ECPD.

Much testing done

The testing project now includes four levels of examination: an engineering-science aptitude test for students in second year high school; the pre-engineering inventory for secondary school graduates; a series of engineering achievement tests for sophomore engineering students; and specialized examinations for graduates of various branches of engineering.

Last year over 25,000 students took the pre-engineering inventory in 39 institutions scattered widely over the country. Due to the large number of students tested, the small fee charged was sufficient to carry the cost.

Present plans call for expansion of the testing beyond the sophomore level in colleges and more work on tests for secondary school students.

Mr. Vaughn expressed the opinion that ultimately this testing of students in engineering schools may supplant the present system of accrediting. This may be heresy, he said, but the day may come when schools will be judged by the result of achievement tests given their graduates, not by the courses taught or the grade of teachers.

Accrediting of schools

Accrediting of engineering schools and reexamination of their curricula, which was shut down during the war soon will be in full swing again. It is hoped to have most of the periodic reexaminations completed in two years according to D. B. Prentice, Chairman of the Committee on Engineering Schools.

Accrediting of technical institutes is being pushed actively due to the growth of such schools during and since the war. The Committee on Engineering Schools reported that it would not recommend for accrediting as a curriculum of technical-institute type any curriculum for which claim is made that it produces qualified engineers.

In response to a request from representatives of South American Engineering Schools for some form of recognition by ECPD, the committee on Engineering Schools is to make a study of what steps might be taken to provide those schools with something short of full accrediting that would help their students who come to this country to continue their engineering education. Full accrediting is considered impractical for several reasons.

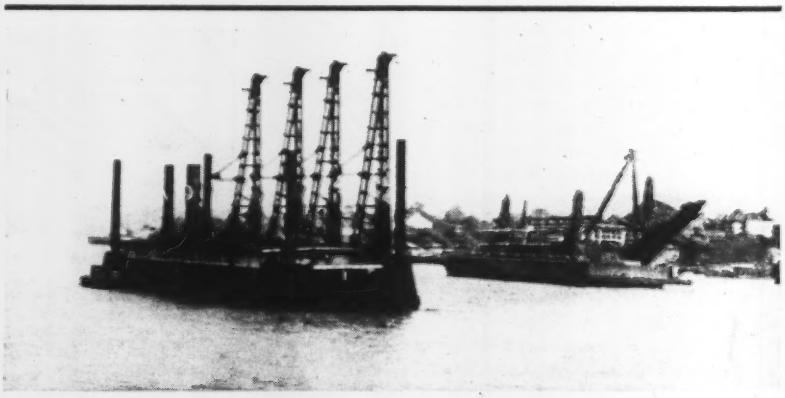
A revised draft of the Canons of Ethics for Engineers was formally adopted by the council and similar formal adoption of these canons now will be recommended to the eight constituent societies. Some of the societies already have adopted this latest revision or one of the earlier drafts.

The council voted to continue the special committee headed by Dugald C. Jackson that drafted the canons for another year to assist in seeking widespread adoption of them, and the executive committee was instructed to consider setting up a permanent committee to handle suggestions for revision or amplification that may come from the several societies.

Uniform member grades

N. W. Dougherty, chairman of the Committee on Professional Recognition, said that his committee hopes soon to develop new deliniations for grades of membership in engineering societies that will be acceptable to a majority of the societies sponsoring ECPD. He reported that the ASCE, ASME and AIEE each have the subject under consideration. The board of the latter society has approved in principal the adoption of minimum grades by ECPD and suggested to ECPD what those standards might be. Included are definitions of the grades of fellow, member, associate, affiliate and student. They correspond closely to the grades outlined in the recent questionnaire to members of the ASCE, the requirements for member grade being set at the

(Continued on following page)



***Deepen Harbor**—Drill-boat and 16 cu.yd. dipper dredge "Crest" of the Great Lakes Dredge and Dock Co. are working on hard-rock widening of the Kill Van Kull—an access channel to the industrial area of Newark Bay in New York Harbor. The $1,000,000 project of the New York District, Corps of Engineers, requires removal of 78,000 cu.yd. of ledge rock and 38,000 cu.yd. of other material to deepen the channel to 37 ft. from 30 ft.*

level set for registration under the model law.

The Committee on Professional Recognition said that the payment of inadequate salaries to engineers employed by state and local governments may have a far reaching effect and criticized engineering heads of public departments who are willing to hire men at low rates.

A. R. Cullimore, of Newark College of Engineering, touched on employee problems in his address at the annual dinner, stating that employers of large numbers of engineers who treat their employees collectively instead of as individuals may expect to have their employees approach them by collective bargaining. Basically, he said, engineers don't like regimentation as in a union, hence much can be done to develop their professional consciousness by dealing with them as individuals and helping them to continue their training after they leave school.

ECPD at local levels

Helping young engineers who are just getting started is one of the immediate objectives of J. W. Parker, president of the Detroit Edison Co. and chairman of the ECPD, who is working toward getting local engineering councils interested in implementing the ECPD program. In his annual report he observed that in a few communties engineers are actively engaged in guidance work in secondary schools, but he hopes to get work among the young engineers out of the blueprint stage in a few places soon.

C. R. Young, dean of the engineering school at the University of Toronto, said that the Engineering Institute has set up local counseling bodies. These have been of considerable help in broadening the training of young men before they came up for their license examinations. He recommended that licensing boards look beyond technical proficiency in determining a man's qualifications.

J. P. H. Perry honored

A feature of the annual dinner was the presentation of an illuminated text to J. P. H. Perry, vice-president of the Turner Construction Co., who served as chairman of ECPD at the time the Engineering Institute of Canada was admitted to membership in ECPD. The parchment was signed by L. F. Grant, president of the institute and the 18 living past presidents. Presentation was made by J. B. Challies, president of the institute when it joined ECPD in 1938.

Mr. Parker was reelected chairman and H. S. Rogers, president of Polytechnic Institute of Brooklyn, was elected vice-chairman for the coming year and A. B. Parsons, secretary of AIME will act as secretary. H. T. Heald, president, Illinois Institute of Technology, succeeds D. B. Prentice as head of the Committee on Engineering Schools, Scott B. Lilly, chairman of the department of civil engineers at Swarthmore College, will head the Committee on Professional Training, and Ole Singstad, consulting engineer, New York, is the new chairman of the Committee on Professional Recognition.

Northeast forest fires do heavy damage

Temporary reconstruction is already under way in several stricken areas

As light rains began to fall last weekend to help extinguish or control stubborn fires in the New England states and New York, the area began to take stock of damage from what were said to be the worst fires in history.

A conservative estimate placed building and other property losses at Bar Harbor and other Maine points at more than $40,000,000. That state, declared an emergency area by President Truman so that its residents might receive direct aid from U. S. armed services, was hardest hit by fires that followed a month-long drouth. New Hampshire, Massachusetts and upper New York State also were the scenes of disastrous forest blazes.

Costly summer residences at Bar Harbor were included in the more than 1,000 Maine dwellings destroyed, and state officials said that more than 6,000 persons were homeless. Thousands of acres of timberland were destroyed in all of the states.

Almost before fires died down construction equipment and contractors' crews moved into the burned areas to start rebuilding ruined homes and business establishments.

Army and Navy groups brought in much of their equipment, and shipments of prefabricated structures to serve as temporary shelters were also flowing into the area. Governors of the states, and many local and state officials also began scrutiny of fire-warning and fire prevention networks to prevent recurrence of the fires.

Damage in New Hampshire, Massachusetts and New York seemed to be confined to woodland for the most part, although some damage to buildings was reported.

In New York State, where the fires were concentrated in the state-owned forests, Gov. Thomas E. Dewey closed the forest temporarily.

Publishing House — Now nearing completion in downtown New York City is the 13-story Fairchild Publications Building, an addition to provide new quarters for the publishing house. The concrete and steel structure, faced with Indiana limestone, will feature six outside terraces and a penthouse, and has been built to accommodate heavy machinery of a pressroom on its lowest floor.

McNary Dam contract to be let soon

A second construction contract for the $180,000,000 McNary Dam on the Columbia River will soon be let, probably to Guy F. Atkinson Co., low bidder for cofferdam work on both of two alternate plans.

Col. O. E. Walsh, district engineer, Corps of Engineers, Portland, Ore., announced the Atkinson bids as $1,096,510 and $1,116,610 as against the government estimates of $1,029,621 and $1,045,821. There were two other bidders.

Atkinson is already holder of a contract for the dam's navigation lock, and rock from its excavation will be used in the shore arms to form a rock core for the cofferdam. Specifications call for sealing with impervious clay and silt which is available near the site.

The navigation locks will be 86 x 500 ft. and will have a lift under normal conditions of 85 ft. Offices, housing, roads, sewage and water systems, and maintenance shops are the other phases of the project already under way.

The 7400-ft. long dam is scheduled for completion about 1952 when its powerhouse will be ready to generate 828,000 kw. of 1,380,000 kw. designed capacity. A feature of McNary Dam is a spillway, to handle 2,000,000 cfs.

Builders enter interstate bidding for bricklayers

A race is on for the hiring of bricklayers by contractors in Indiana and Texas. The lure is higher wages, overtime work and premimum payments.

Recently the Houston, Tex., Chapter of the Associated General Contractors advertised in an Indianapolis daily newspaper to the effect that "Houston, America's fastest growing city, needs bricklayers. Come to booming Houston where there is year-round work in a warm, pleasant climate. High earnings, ideal working and living conditions. Here bricklayers earn $2.25 an hour with double time for overtime."

In retaliation, C. O. Holmes, executive secretary of the Indianapolis Chapter of the Associated General Contractors, sent the following copy for an advertisement which he requested the Houston executive secretary to place in Houston papers:

"Bricklayers wanted in Indianapolis area. Premimum wages by 6 and 7-day week. Double time for overtime. High volume construction ahead for two years. Rush jobs get $212.50 a week. Much inside work. Enclosure and heating used freely."

Advance work started on N. Y. State buildings

A $23,394 contract for soil explorations and foundation investigations at Cornell University, Ithaca, N. Y., and at Willard State Hospital, Willard, N. Y., has been awarded to Speague and Henwood, Inc., of Scranton, Pa. the New York State Department of Public Works said last week. The work is preliminary to the final design of several structures at the two sites.

"Design for Progress" winners announced

Awards in the 1946-47 Design-for-Progress Program of the James F. Lincoln Arc Welding Foundation were announced last week. Among the winners was Kiser E. Dumbauld, design engineer, Bureau of Bridges, Ohio State Highway Department, who won second prize of $10,700 for a paper on the redesign of three bridges to welded construction.

Other winners include James H. Jennison, head of the Developmental Engineering Section, U. S. Naval Ordnance Test Station, Pasadena, Calif., who received $2,000 for a paper on design and construction of a 300-ft. span movable bridge; G. W. Smith and C. H. Darby, associate bridge engineers, Division of Highways, California Department of Public Works, Sacramento, Calif., who shared $1,250 for a paper describing three types of bridges especially adapted to desert conditions; and Michael F. Petrofesi, assistant civil engineer, Office of the President, Borough of Manhattan, New York City, who won $950 for a paper on the design of a proposed highway overpass utilizing curved steel girders.

Antitrust suit filed against pipe companies

The Department of Justice has filed an antitrust suit charging five companies with conspiracy to monopolize and restrain trade in the cast iron pressure pipe field.

Accused of abusing patent rights and lease-license agreements are: United States Pipe & Foundry Co., Burlington, N. J.; James B. Clow & Sons, Chicago; Glamorgan Pipe & Foundry Co., and Lynchburg Foundry Co., Lynchburg, Va.; and McWane Cast Iron Pipe Co., Birmingham, Ala. The suit was filed in U. S. District Court in Trenton, N. J.

The pipe involved is used principally in transmission of water and gas under pressure.

The Justice Department maintains in its complaint that the defendants produce about 70 percent of all cast iron pressure pipe made in this country, with total sales—mostly to municipalities, other governmental agencies and public utilities—totaling more than $35-million.

DATE GROWERS DON'T LIKE ARTIFICIAL RAIN

Asserting that artificial rain-making offers a serious threat to the state's date industry, directors of the Arizona Date Institute have warned they will resort to legal action, if necessary, to prevent such precipitation over cultivated areas.

The institute's directors claim that the rain of Sept. 18, said to have been produced partially by artificial means, caused considerable damage to the area's date crop. An earlier man-made rain in Arizona was described in *ENR* Aug. 7, Vol. p 169.

John T. McChesney of Phoenix, secretary of the institute, said it was "debatable" as to how much of that rain was caused artificially, but stressed the damage caused to the crop by the downpour regardless of its cause.

New standards suggested for asphalt tile making

As a move to help the asphalt tile industry meet the enormous post-war demand for this material and effect all possible economies in manufacture, distribution and use, the Division of Simplified Practice of the National Bureau of Standards, in cooperation with the Asphalt Tile Institute, has just issued recommendations for standardization.

Simplified Practice Recommendation R225-47 is the result of nearly a year's study and approval by manufacturers, dealers and users of asphalt tile.

The tile would be manufactured in these standardized sizes in both ⅛ and 3/16-inch thicknesses: 6 x 12, 9 x 9, and 12 x 12 inches; border tile 18 x 24 inches, the required width being cut on the job from this size; half tile cut diagonally for diagonal installations, 9 x 9 and 12 x 12 inches. Feature strip comes in widths of 1, 1½, 2½ and 3 inches.

Court orders counties share flood control costs

The Washington State Supreme Court has upheld a lower court decision which ruled that an agreement between King and Pierce counties for flood control in the White River valley should continue for 74 years after expiration of the original 25-year agreement.

The original agreement for sharing costs of flood control was drawn up in 1914 with a stipulation that the program would continue on a joint cost-sharing basis following the end of the first 25-year period. King County commissioners had argued that a 1921 agreement raising the costs of flood control from $50,000 to $120,000 did not include the 74-year stipulation, but the court overruled this contention.

Oil company plans 3 under-river pipelines

The Magnolia Pipe Line Co., Magnolia Building, Dallas, Tex., recently awarded a contract to the Omaha Dredge & Deck Co., at $403,000 for the laying of a pipeline across the Mississippi River to Chester, Ill., one across the Arkansas River to Little Rock, Ark., and one across the White River to Batesville, Ark.

These river crossings are being made in connection with the $32,000,000 pipe line this company is constructing between Corsicana, Tex., and Patoka, Ill., involving about 700 miles of 20-inch pipe line of welded joint pipe.

ENGINEERING SCHOOL NEWS

New campus for applied science college at Syracuse University—Lincoln arc welding awards and scholarships—Traffic engineering at Yale—Faculty changes

William P. Tolley, chancellor of Syracuse University, Syracuse, N. Y., has announced that eventually all engineering courses of the university's College of Applied Science will be conducted at a new science and engineering campus. The university and the Carrier Corp. have acquired title to the huge turbine and jet propulsion equipment plant built in Syracuse in 1942 by the U. S. Navy and operated by the General Electric Co. The factory and its equipment originally cost the government $20,000,000, the plant covering an area of 139 acres. The university's section consists of 80 acres and contains two structures 200 x 800 ft., four radio buildings, and three others formerly used as laboratories and test buildings. Some sections of the engineering school have already been moved to the former G. E. buildings and laboratories are being set up for the recently established Institute of Industrial Research.

The university is remodeling one of the larger buildings on the new site with a $500,000 grant from the Federal Works Administration. This building alone will house 50 classrooms, 18 engineering and general science laboratories, 75 shops, 10 offices, and a cafeteria. Administrative, electrical, and aeronautical engineering courses now are being held on the new campus which lies six miles across the city from the main part of the university. The departments of civil, chemical, and mechanical engineering are expected to move off the main campus late this winter. Freshmen, however, will not move to the new campus.

Eighteen engineers are currently enrolled in the graduate course in traffic engineering offered by the Bureau of Highway Traffic at Yale University. The course requires eight months in residence at the university. Prof. Theodore M. Matson, in commenting upon the program, says that "the course of study consists of a full year of graduate training in the fundamentals of street and highway traffic operations. The wide geographical distribution of these men, and the requests from some areas for additional trained men clearly demonstrate the general demand for qualified traffic engineers to meet the fast growing problems of traffic accidents and congestion."

Rules and conditions for the annual engineering undergraduate award and scholarship program sponsored by the James F. Lincoln Arc Welding Foundation, Cleveland, Ohio, have been announced, the closing date being May 15, 1948. Under the award plan engineering students of various colleges will submit papers on arc welded design. Under the scholarship plan scholarships will be allocated to the schools in which the highest award winners are registered. The total amount of the awards is $5,000, and of the scholarship funds $1,750.

Dean S. S. Steinberg of the college of engineering, University of Maryland, has announced the appointment of these four new faculty members in the department of civil engineering: Prof. Edward S. Barber, associate professor of civil engineering, graduate of the University of Maryland college of engineering and for 12 years with the Public Roads Administration, and an authority on soils engineering; Prof. Louis E. Otts, Jr., associate professor of civil engineering, who received his B. S. and M. S. degrees from Texas A. and M. College and has had wide experience in water supply and sewage treatment works, and was formerly assistant professor of sanitary engineering at Vanderbilt University; Presley A. Wedding, assistant professor of civil engineering and a graduate of the University of Maryland college of engineering, an architect-engineer and formerly an instructor at Catholic University; and Claude D. Kinsman, assistant professor of civil engineering, who received his B. S. at the University of Nebraska and his M. S. degree at Purdue and also taught at both those universities. He has been in government service a number of years, more recently with the Office of the Housing Expediter.

Howard L. Furr has returned to the civil engineering faculty at Texas A. & M. College after an absence to serve in the armed forces and with the Southern Railway in Cincinnati, Ohio. He is a graduate of Mississippi State College.

The University of Manitoba has appointed J. F. Boux and O. Marantz professors of civil engineering.

William J. Hollis, a recent graduate of the University of Louisville, is an assistant professor of civil engineering at Rose Polytechnic Institute, Terre Haute, Ind.

Col. Harold A. Kurstedt, Corps of Engineers, has been appointed professor of military science and tactics at the Carnegie Institute of Technology, Pittsburgh, Pa. Since 1945 he served as executive officer to the division engineer, North Atlantic Division. He is a West Point graduate of 1927, and in 1930 received a civil engineering degree from Cornell.

Water For Cadets—Construction of the Popolopen Water Supply dam to supply the U. S. Military Academy at West Point, N. Y., will create a reservoir with a live storage of 445 mg. The concrete dam will be about 600 ft. long and 62 ft. high. The spillway crest will be 160 ft. long. Contractors are Andrew Gull Corp. and L. G. Defelice & Son.

OBITUARY

Arthur Graham Robbins, 85, professor emeritus of civil engineering, Massachusetts Institute of Technology, died at Winchester, Mass., Oct. 26. Professor Robbins was a graduate of M.I.T., 1886. He joined the faculty in the year of his graduation and was appointed professor of topographical engineering in 1909, continuing in that position until his retirement.

George Lorne Jennings, 44, president of Harry Jennings & Son, engineers, died at Toronto, Ont. Oct. 23. He was a graduate in civil engineering of the University of Toronto.

Prof. Chester Arthur Hughes, 52, of the Purdue University civil engineer school, died Oct. 20. He went to Purdue last month after teaching at the University of Minnesota 20 years. He served in both world wars with the Canadian Army, and was a graduate of the University of Toronto.

George L. Ballou, 79, a structural steel engineer for more than 50 years and a former official of the American Bridge Co., died in New York City Oct. 28. He was in charge of the steel construction of the Flatiron Building, one of New York's first skyscrapers at 23rd Street.

Borden B. Harris, 72, retired civil engineer, died Oct. 26 in Brooklyn, N. Y. A resident of Washington, D. C., for the last 20 years, Mr. Harris was associated with the J. G. White Engineering Corp. of New York for whom he worked on railroad construction on Panay and other Philippine Islands before World War I and for the Associated Gas & Electric Co. of New York before retirement. He had studied at the University of Illinois.

Robert Lee Emrick, 62, civil engineer, died Oct. 24 in Detroit, Mich. Resident of Washington, D. C., Mr. Emrick received his engineering B. S. degree from the University of Michigan and an M. S. in engineering from the University of Pennsylvania.

David X. Greenberg, 52, senior assistant engineer for the Missouri Pacific Railroad Company, died in St. Louis, Mo. on Oct. 23.

Ernest E. Reese, 61, civil engineer of Niagara Falls, N. Y., since 1920, died recently. A graduate of Syracuse University, Mr. Reese was in government service before joining the city engineering staff at Niagara Falls. He was a World War I veteran.

Thomas W. Sasscer, 61, road engineer for the Prince Georges, Md., county engineering department, was fatally injured on Oct. 27 when he was struck by a truck in Beaver Heights. For a number of years, he was assistant construction engineer of the sewer division of Baltimore.

Propose "pay-as-you-go" plan for N. M. highways

Burton Dwyre, New Mexico state highway engineer, has called for a radical change in the state's highway department, including a change to "pay-as-you-go" operation.

Dwyre, who disclosed he had conferred with Governor Thomas J. Mabry, before issuing his statement, also asked a temporary increase of the state gasoline tax, now 5 cents, of 1½ to 2 cents a gallon, and legislation enabling the department to follow a program of long-range planning.

The state has made it a practice, for more than 10 years past, to issue debentures, backed by future gasoline tax collections, to pay for new road construction. The amount of outstanding debentures has advanced to $21,622,000, and will be some $2,000,000 greater next year, Dwyre said. Demands of the debt, are $1,970.000 this year.

"The borrowing must stop somewhere," Dwyre said.

He said the department's difficulties have been increased by frequent highway commission personnel changes, and a helter-skelter growth of the road system under laws which permit both the commission and the state legislature to designate roads in advance, and by rapidly advancing costs.

MAJOR MEETINGS

American Institute of Steel Construction, 25th annual convention, Roney Plaza Hotel, Miami Beach, Fla., Nov. 10-13.

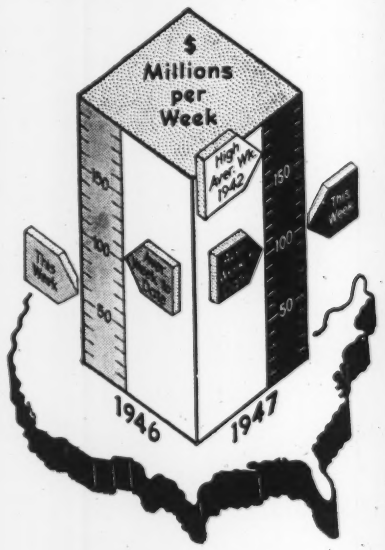
National Association of Housing officials, 14th annual meeting, Hotel New Yorker, New York, N. Y., Nov. 17-20.

Highway Research Board, 27th annual meeting, National Academy of Sciences and National Research Council, Washington, D. C., Dec. 2-5.

National Society of Professional Engineers, Statler Hotel, Buffalo, N. Y., Dec. 4-6.

Society for Experimental Stress Analysis, annual meeting, Hotel Pennsylvania, New York, N. Y., Dec. 4-6.

CONSTRUCTION ACTIVITY



As Reported this week to . . .
Engineering News-Record

CONTRACT VOLUME

Continental U. S. Only
(Thousands of Dollars)

	Week of Nov. 6 1947	Cumulative 1947 (45 wks)	Cumulative 1946 (45 wks)
Federal	$9,203	$533,080	$537,566
State & Mun.	41,228	1,527,793	1,250,931
Total Public	$50,431	$2,060,873	$1,788,497
Total Private	46,867	2,717,916	2,811,815
U. S. Total	**$97,298**	**$4,778,789**	**$4,600,312**

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

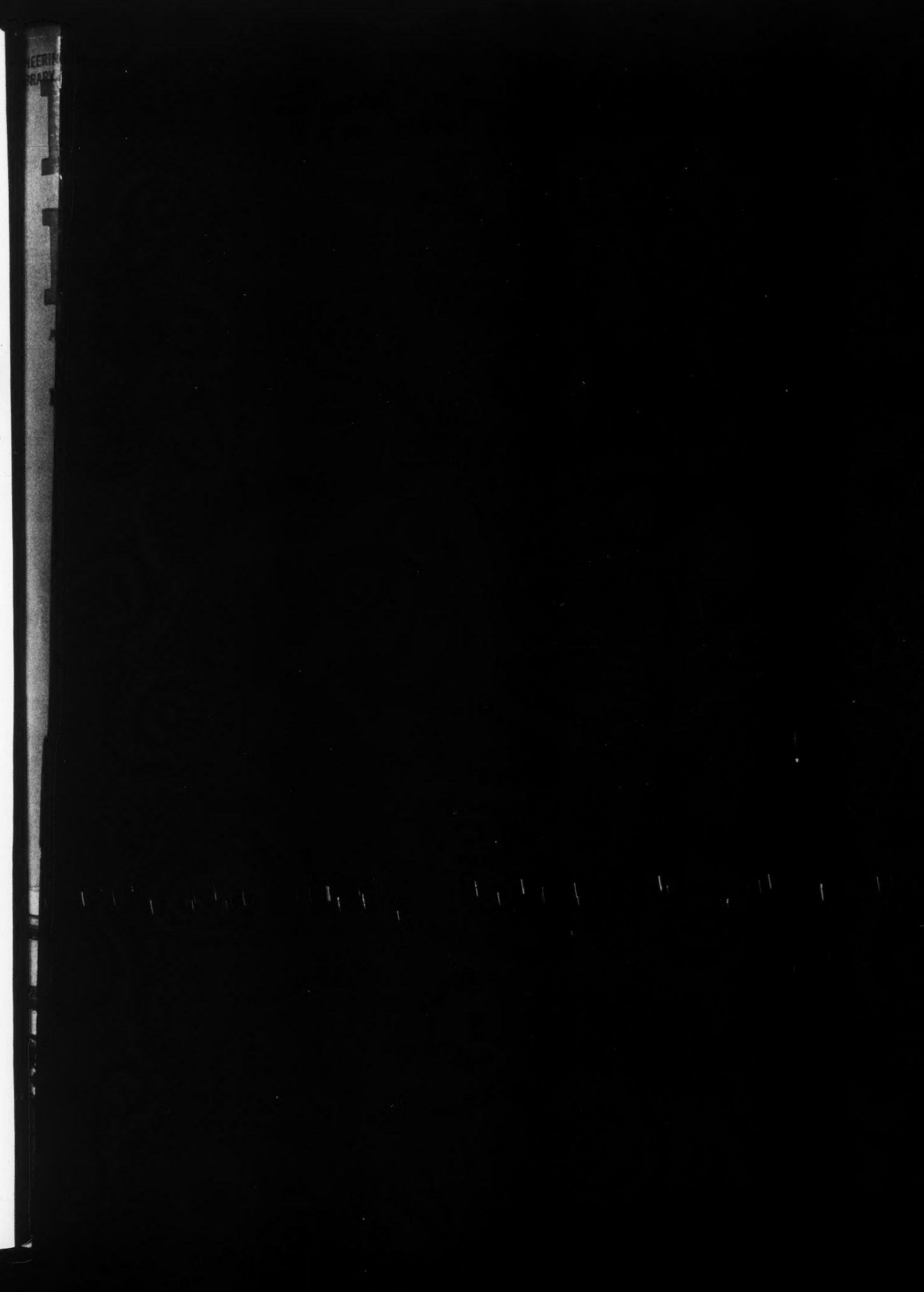
Dollar Volume (Thousands)

Type of Work	This Week	Cumulative 1947 (45 wks)	Cumulative 1946 (45 wks)
Waterworks	$1,160	$94,572	$97,368
Sewerage	7,196	122,920	99,131
Bridges	1,198	162,885	115,804
Highways	13,603	698,642	687,545
Earthwork, Waterways	9,716	259,358	295,844
Buildings, Public	12,197	507,109	347,990
Industrial	28,136	780,597	942,500
Commercial	16,544	1,575,941	1,690,848
Unclassified	7,548	576,765	323,282

NOTE: Minimum size projects included are: Waterworks and waterway projects, $22,500; other public works, $40,000; industrial buildings, $55,000; other buildings, $205,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1947 (45 wks)	Cumulative 1946 (45 wks)
NON-FEDERAL	Current	$1,321,393
Corporate Securities	Figures	386,997
State and Municipal	Not	709,396
Fed. Aid Highway	Available	225,000
FEDERAL		1,714,695
Total Capital		**$3,036,088**

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Oct.'47	424.41	204.01
Building Cost	Oct.'47	320.58	173.30
Volume	Sept.'47	255.	112.